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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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AT&T CORP.
ROOM 2A207
ONE AT&T WAY
BEDMINSTER, NJ 07921

EXAMINER	
MOUTAOUAKIL, MOUNIR	

ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,959	BARZEGAR ET AL.	
	Examiner	Art Unit	
	Mounir Moutaouakil	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed 01-22-2008 has been entered and considered.

Claims 1-20 are pending in this application.

Claims 1-20 remain rejected as discussed below.

Claim Rejections - 35 USC § 103

1. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim1-9, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hjartarson et al (Wo/2001/017219) in view of Smyth et al (an independent

evaluation of the performance of the CCITT G.722 wide band coding recommendation) in view of Vernon (Design and Implementation of AC-3 Coders) and further in view of Schulzrinne et al (Session Initiation Protocol (SIP)-H.323 Interworking Requirements). Hereinafter referred to as Hjartarson, Smyth, and Schulzrinne.

Regarding claim 1, 19 and 20. Hjartarson discloses a telecommunication method. The method comprises receiving, at a subscriber interface line card, an analog signal from a POTS subscriber loop circuit (see page 5, lines 1-12. The method includes an analog front end for coupling the line card to a telephone or POTS); quantizing analog signal into a plurality of digital samples (see page 5, lines 1-12. The method includes a digitizer for digitizing the received voice signal); encoding, via high-quality audio codec instruction running on a digital signal processor installed on the subscriber interface line card, the plurality of digital samples (see page 5, lines 1-12. the interface line card includes a packetizer for packetizing the digitized voice signals and a controller for controlling the destination of the voice signals); converting, via conversion instructions running on the digital signal processor, the encoded plurality of digital samples into a plurality of VoATM packets (see figure 3, element 46. the interface line card converts the digital samples into VoATM cells). Hjartarson discloses the capability switching between codecs to provide enhanced packet voice (see page 9, lines 14-33).

Hjartarson discloses all the limitations of the claimed invention with the exception of using a G.722 codec and AC-3. However, Smyth and Vernon, from the same field of endeavor, disclose the benefits/implementation of the G.722 codec and AC-3 codec. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the

invention to use the G.722 codec and AC-3 codec, as taught by Smyth and Vernon, into the line card (specifically 24 or 46, Hjartarson: page 9, lines 21-25) of Hjartarson for the purpose of providing high quality voice signals and enhancing the performance of the transmitted signals.

The telecommunication system is adapted to switch between codecs (page 9, lines 14-33) (It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138). Hjartarson discloses all the limitations of the claimed invention. Hjartarson does not explicitly discuss how the codec capabilities are negotiated between the communicating ends. However, Schulzrinne, from the same field of endeavor, teaches how H.245 is employed to exchange codec capabilities between communicating ends for the purpose of utilizing the most suitable codec, enhancing the quality of the communication between terminals and bandwidth usage (6.1.5, capability negotiation). Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the H.245, as taught by Schulzrinne, into the telecommunication system of Hjartarson for the reasons listed above.

Regarding claim 2. The method of Hjartarson further comprises sampling the received analog signal into a plurality of samples (see page 9, lines 26-33. Codecs have a sampling rate. Moreover, it is necessitated by the art to sample analog signals into a plurality of samples and convert each sample into a numeric codes).

Regarding claim 3. The method of Hjartarson further comprises digitizing a plurality of samples obtained from the received analog signal (see page 5, lines 1-12. the system comprises a digitizer for digitizing the received voice signal).

Regarding claim 4. The method of Hjartarson further comprises providing a destination address to each of the plurality of packets (see page 5, lines 1-12. The system comprises a controller for controlling the destination of the packets).

Regarding claim 5. The method of Hjartarson further comprises providing the plurality of VoATM packets to a VoATM packet interface (see figure 3, elements 46 and 70, where the system provides VoATM packets to a VoATM packet interface).

Regarding claims 6, 7 and 15. The method of Hjartarson further comprises via instructions running on the digital signal processor, performing echo cancellation and suppression on the encoded plurality of digitized samples (see page 7, lines 5-10. the processor conducts echo cancellation and suppression on the encoded plurality of digitized samples), the line card adapted to switch automatically between the codec specified in G.722 and a POTS codec based upon capabilities of customer premises equipment (see page 6, lines 12-21).

Regarding claim 8. The method of Hjartarson further comprises via instructions running on the digital signal processor, compressing the plurality of digitized samples (see page 5, lines 1-12. the system packetized the digitized signal, which indicate samples compression).), the line card adapted to switch automatically between the

codec specified in G.722 and a POTS codec based upon network capabilities (see page 6, lines 12-21).

Regarding claim 9. The method of Hjartarson further comprises via instructions running on the digital signal processor, modulating the plurality of digitized samples (see page 5, lines 1-12. the system packetizes the digitized samples which indicate samples modulation). The Line card adapted to encode the plurality of digital samples into an ADPCM format (Smyth discloses the benefits of G.722. ITU-T G.722 uses a fundamental adaptive difference pulse coded modulation (ADPCM) and is a speech quality basis of a variety of wide-band speech coders).

Regarding claims 16-18. Hjartarson discloses subscriber line card is adapted to be installed at a central office, central office switch or remote terminal of a central office switch (see figure 3 element 68. element 60 can be installed anywhere within the network).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hjartarson in view of Smyth, in view of Vernon, in view of Schulzrinne and further in view of Hluchyj (US 6381238).

Regarding claim 10. The method of Hjartarson further comprises via instructions running on the digital signal processor, pulse code modulating the plurality of digitized samples (see page 5, lines 1-12. the system converts analog signals into digital signals. Which indicate pulse code modulation of the digitized samples).

Hjartarson in view of Smyth and further in view of Vernon discloses all the limitations of the claimed invention with the exception that the line card is adapted to encode the plurality of digital samples into an LD-CEPL format. However, Hluchyj, from the same field of endeavor, discloses that it can be easily transcoded between LD-CELP and G.722. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to transcode between G.722 and LD-CELP, as taught by Hluchyj, for the purpose of achieving high efficiency and low delay at the same time in order to fulfill the requirement needs of digital telephony under International Telecommunication Union (ITU).

5. Claims 11-14 rejected under 35 U.S.C. 103 (a) as being unpatentable over Hjartarson in view of Smyth, in view of Vernon, in view of Schulzrinne and further in view of Nodoushani et al (US 7,164,694). Hereinafter referred to as Nodoushani.

Regarding claims 11-13. Hjartarson discloses a system, which utilizes a DTMF and Fax machines (It should be noted that the term voice is used generically and its definition may be extended to include other analog transmissions such as fax, page 2, lines 14-29).

Hjartarson did not explicitly disclose a method of converting out-of-band DTMF signals, such as fax signals, associated with the analog signal to an out-of-band packet format. However, Nodoushani discloses a loop carrier system capable converting analog voice samples and signaling (in-band and out-of-band) to IP packets or another format suitable for the access system (see column 43, line 59- column 44, line 6). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the

invention to implement the method of converting out of band analog signals to out of band packets, as taught by Nodoushani, into the telecommunication system of Hjartarson. The motivation for utilizing the conversion method taught by Nodoushani within the telecommunication system of Hjartarson being that it will allow the system to have a dedicated channel for control signals and allow communication between VOIP/VOATM network and none VOIP/VOATM network, such as PSTN.

Regarding claim 14. Hjartarson discloses all the limitations of claim 1.

Hjartarson does not explicitly disclose a method of converting a voice-band modem signal associated with the analog signal to an out-of-band packet format. However, Nodoushani discloses a loop carrier system capable converting analog voice samples and signaling (in-band and out-of-band) to IP packets or another format suitable for the access system (see column 43, line 59- column 44, line 6). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the method of converting voice band signal associated with the analog signals to out of band packets, as taught by Nodoushani, into the telecommunication system of Hjartarson. The motivation for utilizing the conversion method taught by Nodoushani within the telecommunication system of Hjartarson being that it will allow the system to have a dedicated channel for control signals and allow communication between VOIP/VOATM network and none VOIP/VOATM network, such as PSTN.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

7. Regarding claims 11-14. New motivations have been inserted to provide more evidence.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

When responding to this office action, applicants are advised to clearly point out the patentable novelty which they think the claims present in view of the state of the art disclosed by the references cited or the objections made. Applicants must also show how the amendments avoid such references or objections. See 37C.F.R 1.111(c). In addition, applicants are advised to provide the examiner with the line numbers and pages numbers in the application and/or references cited to assist examiner in locating the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mounir Moutaouakil whose telephone number is 571-270-1416. The examiner can normally be reached on Monday-Thursday (1pm-4: 30pm) eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MM
Mounir Moutaouakil
Patent Examiner
02-07-2008

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600